Integrated Multidisciplinary Design Optimization Using Discrete Sensitivity Analysis for Geometrically Complex Aeroelastic Configurations
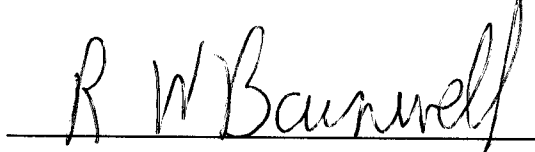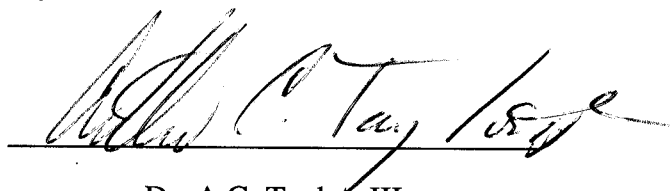
by

James Charles Newman, III

Dissertation submitted to the Faculty of the
Virginia Polytechnic Institute and State University
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

in

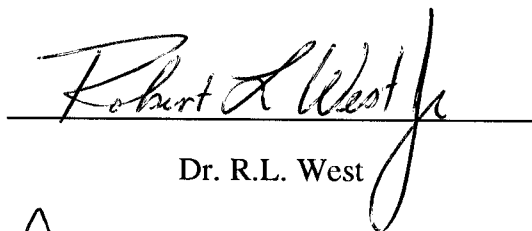Mechanical Engineering

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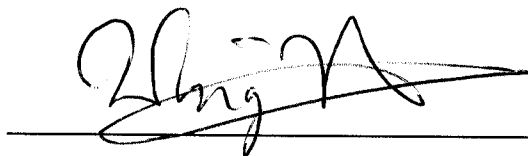
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July 1997
Blacksburg, Virginia